

REMARKS

Following consideration of the following remarks, withdrawal of the rejections is requested.

Discussion of Claims Rejected Under 35 U.S.C. § 102(e) and § 102(b)

Claims 18, 19, 31, 32, 36, 47, and 49 are rejected under 35 U.S.C. § 102(e) as being anticipated by Yadav et al. (U.S. 6,946,197). Yadav discloses a sensor device with nanopores. See abstract.

However, Yadav does not disclose all of the elements of Claim 18. For example, the cited art does not disclose a device with a first and a second electrode, and an insulation layer arranged between the electrodes, wherein one or more nanopores are provided in the second electrode, wherein the nanopores extend through the insulation layer to the first electrode, the surface of which is at least partially uncovered by the nanopores.

By this, the pair of measuring electrodes is provided with a very high sensitivity, such that the electrodes can be used to detect redox processes at individual molecules; see paragraphs [0015] and [0020] of the printed application (U.S. 2004/0134778).

The structure shown in Fig. 1 of Yadav does not show at least the insulation layer arranged between the electrodes, wherein one or more nanopores are provided in the second electrode, wherein the nanopores extend through the insulation layer to the first electrode, the surface of which is at least partially uncovered by the nanopores. This becomes clear from reading column 7, lines 1-44 of Yadav. Specifically, nanopores of Yadav do not extend to the surface of the second electrode. "A dense oxide barrier layer normally separates the bottom of the pores from the underlying aluminum substrate." (Col 7, lines 17-18) Two techniques are discussed for processing the oxide barrier. Regarding the first technique, Yadav states that "The barrier layer in this case is pierced with small pores. This type of anodic alumina is referred to as 'asymmetric' due to the different size of the pores at the top and bottom surfaces." (Col 7, lines 26-30). Accordingly, the first technique does not result in nanopores which extend through the insulation layer to the first electrode, the surface of which is at least partially uncovered by the nanopores. Regarding the second technique Yadav teaches that the second technique "leads to a rapid electrochemical dissolution of the barrier layer, and separation of the anodic alumina substrate from the aluminum substrate." (Col 7, lines 34-37). Accordingly, the second technique

removes one of the electrodes, and therefore does not teach a device with first and second electrodes as in Claim 18. Accordingly, Applicant respectfully submits that Claim 18 is patentably distinct over Yadav.

Claims 18, 19, 31, 36, 47, 49, and 50 are rejected under 35 U.S.C. § 102(b) as being anticipated by Case et al. (U.S. 5,328,847). Case discusses a biosensor. See abstract.

However, Case does not disclose all of the features of Claim 18. For example, Case does not disclose a device having first and second electrodes, wherein one or more nanopores are provided in the second electrode. Case discusses a counter-electrode to measuring electrode 5, where the counter-electrode is a liquid. As shown in Figure 5 of Case neither the measuring electrode 5 nor the liquid counter-electrode have nanopores. Accordingly, Applicant respectfully submits that Claim 18 is patentably distinct over Case.

Claims 18, 19, 31, and 47 are rejected under 35 U.S.C. § 102(b) as being anticipated by Northrup et al. (U.S. 6,004,450). Northrup discusses "fabrication and use of porous silicon structures to increase surface area of heated reaction chambers." See abstract.

Northrup, however, does not disclose all of the features of Claim 18. For example, Northrup does not disclose a device where one or more nanopores are provided in the second electrode, wherein the nanopores extend through the insulation layer to the first electrode, the surface of which is at least partially uncovered by the nanopores, and wherein the nanopores have an opening width selected from the range of approximately 20 nm to approximately 1000 nm. In Northrup, the negative electrode 73 is not described as having nanopores with an opening width selected from the range of approximately 20 nm to approximately 1000 nm. The pore size of the silicon is discussed in the discussion of Figures 7A, 7B, and 8, but the size of the holes in the negative electrode 73 is not discussed. In fact, discussion of Figures 4 and 5 may suggest that the holes in the electrode are in the range of 2mm to 7mm. Accordingly, Applicant respectfully submits that Claim 18 is patentably distinct over Case.

Since Claims 31 and 47 have features similar to those discussed with reference to Claim 18, Applicant respectfully submits that Claims 31 and 47 are also patentably distinct over each of Yadav, Case, and Northrup.

Furthermore, Applicant does not necessarily agree with the characterization of the cited art with respect to the dependent claims, and respectfully submits that the dependent claims are

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in condition for allowance because of the features which they inherit from the independent claim from which they each depend, and for their own features.

Conclusion

Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. In light of the above amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested. If the Examiner has any questions which may be answered by telephone, he is invited to call the undersigned directly.

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.


Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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